

HIGH EFFICIENCY LIGHT EMITTING DIODE AND METHOD OF
MAKING THE SAME
ABSTRACT OF THE INVENTION

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A high efficiency light emitting diode (LED) with metal reflector and the method of making the same is disclosed. The metal reflector is composed of at least two layers with one transparent conductive layer and the other highly reflective metal layer. The transparent conductive layer allows most of the light passing through without absorption and then reflected back by the highly reflective metal layer. The transparent conductive layer is selected from one of the materials that have very little reaction with highly reflective metal layer even in high temperature to avoid the reflectivity degradation during the chip processing. With this at least two layer metal reflector structure, the light emitting diode with vertical current injection can be fabricated with very high yield.